

ACUTE INSTABILITY OF THE NUCHAL LIGAMENT FOLLOWING CERVICAL NEUROMUSCULAR DYSFUNCTION IN A DRESSAGE HORSE

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Introduction

Focal mineralisations and insertional desmopathy of the equine nuchal ligament are diagnosed occasionally, and may even be incidental findings. However, acute instability of the nuchal ligament has not been described before.

Objective

To describe the clinical and imaging findings in a horse with acute cervical pain and instability of the nuchal ligament.

Materials and Methods

A 10-year-old warmblood dressage gelding was referred with acute pain in the cranial cervical region after paddock turn-out. Instability of the nuchal ligament was observed in the cranial cervical area, without obvious swelling or local sensitivity. However, the horse was reluctant to extend the neck and presented ataxia.

Results

Neurological examination using transcranial magnetic stimulation revealed mildly increased onset latency in the 4 limbs but no decrease in peak-to-peak amplitude in the descending motor tracts. Radiography revealed a bony fragment between the articular processes of the third and fourth cervical vertebrae and a concurrent mild dorsal angulation of the vertebral canal. Inter- and intra-vertebral ratios were within normal limits. Ultrasonography revealed mild thickening of the nuchal ligament at the level of the second cervical vertebra and confirmed a left-right shifting of the nuchal ligament into a paramedian position, depending on left or right cervical flexion. Electromyography under ultrasonographic guidance revealed denervation (positive sharp waves) of the right M. obliquus capitis caudalis, whereas the left sided muscle was normal. The horse responded well to 3 months of box rest, steroidal anti-inflammatory medication and supplementation of vitamine B1. Radiographic follow-up did not reveal any changes, thereby questioning the clinical relevance of the observed bony fragment. Six months after initial presentation, the horse had successfully returned to its previous athletic level.

Conclusion

Trauma to the dorsal branches of the cervical spinal nerves and neurogenic atrophy of the stabilizing musculature including the M. obliquus capitis caudalis, may cause instability of the nuchal ligament.